ABSTRACT: The objective of this study was to test a model for analysing the possible benefits of clinical supervision. The model suggested a pathway from participation to effectiveness to benefits of clinical supervision, and included possible influences of individual and workplace factors. The study sample was 136 nursing staff members in permanent employment on nine general psychiatric wards and at four community mental health centres at a Danish psychiatric university hospital. Data were collected by means of a set of questionnaires. Participation in clinical supervision was associated with the effectiveness of clinical supervision, as measured by the Manchester Clinical Supervision Scale (MCSS). Furthermore, MCSS scores were associated with benefits, such as increased job satisfaction, vitality, rational coping and less stress, emotional exhaustion, and depersonalization. Multivariate analyses indicated that certain individual and workplace factors were related to subscales of the MCSS, as well as some of the benefits. The study supported the suggested model, but methodological limitations apply.

KEY WORDS: burnout, clinical supervision, coping, psychiatric nursing, stress.

INTRODUCTION

Considerable resources are allocated to offering psychiatric nursing staff clinical supervision. However, there is no single, coherent definition of clinical supervision in the nursing literature (Lynch et al. 2008). In the context of the present study, we define clinical supervision as an activity allowing nursing staff to reflect on their clinical practice under the guidance of a supervisor experienced in conducting such reflective processes. Proctor's (1987) interactional model of clinical supervision is widely recognized and suggests that clinical supervision has three simultaneous functions: formative (development), normative (assessment), and restorative (recreational).

In general, clinical supervision is assumed to be beneficial for psychiatric nursing staff and for the quality of care (Sloan 2006), and a growing number of researchers have sought empirical support for this assumption. However, a recent review concluded that there is little empirical evidence supporting the acclaimed benefits of clinical supervision in psychiatric settings (Buus & Gonge 2009). In an evaluation of the possible benefits of staff supervision, it is important to consider the theoretical and methodological limitations of previous research on the benefits of clinical supervision. Prior studies that have attempted to establish a (causal) relation between clinical supervision and benefits have treated the relationship as a black box (Heathfield 2001), paying limited attention to designing theoretical models that explicitly account for how the intervention is anticipated to cause the outcome. The studies typically analysed the measures of clinical supervision in relation to some expected benefits, with sparse explicit reflections on the assumed relationship between these variables. In the present study, we address...
this issue by introducing a model accounting for possible relationships between clinical supervision and anticipated benefits.

MODEL

This study assumes the following model for investigating the benefits of clinical supervision (Fig. 1): (i) actual ‘participation’ in clinical supervision must be assessed as the basis of any possible benefits; benefits cannot be expected if there is limited or no participation; (ii) next, it should be established whether the participation created an experience of ‘effectiveness’, since a positive experience of clinical supervision being effective might not necessarily follow from participation; (iii) experienced effectiveness could result in various detectable individual benefits, such as improved aspects of professional and personal functioning; and (iv) the pathway from participation to effectiveness to benefits does not exist in a vacuum, and attention to possible influences of ‘individual’ or ‘workplace factors’ will enhance the reliability and validity of the model by adding information on the conditions under which the clinical supervision has been observed. In the following section, the elements of the model will be substantiated further.

Participation

Surprisingly, little evidence is available regarding the frequency of participation in clinical supervision (Gonge & Buus 2010). The frequency of clinical supervision can be measured as the number of sessions conducted or, more specifically, as the number of sessions an individual nurse has attended. Intervention studies tend to be very explicit about how many sessions the intervention included, but seem to express the actual attendance in more general terms (Berg & Hallberg 1999; Berg et al. 1994; Bradshaw et al. 2007; Hallberg 1994). In survey studies of clinical supervision, reports on participation range from no assessment at all (Pesut & Williams 1990) to reports of a broad distinction between participation and no participation (Kelly et al. 2001; Magnusson et al. 2002; Rask & Levander 2002; Severinson & Hallberg 1996; White & Roche 2006), to reports including some measure of frequency and duration of participation (Edwards et al. 2005; 2006; Hyrkäis 2005; Veeramah 2002). Some of the latter studies reporting a measure of participation do in fact find that participation influences measures of effectiveness and benefits, such as the Manchester Clinical Supervision Scale (MCSS) (Edwards et al. 2005; Hyrkäis 2005) and depersonalization (Maslach Burnout Inventory (MBI)) (Edwards et al. 2006). These findings indicate that investigations of clinical supervision should include a detailed assessment of participation.

Effectiveness

Effectiveness reflects on how the individual experiences the complex process of participating in clinical supervision. Assessing the effectiveness of clinical supervision has been a major challenge for researchers. Studies using open ended-questions and locally-designed questionnaires have reported various results, including better mutual understanding, a broader knowledge base (Hallberg 1994), reflection on clients, examination of practice, improved delivery of care, attention to ethical issues (Veeramah 2002), and a positive attitude to 14 specified aspects of clinical supervision (Berg & Hallberg 1999). The design of the MCSS advanced research on the effectiveness of clinical supervision, providing an accumulated measure of effectiveness by applying seven empirically-derived scales on aspects of clinical supervision (Winstanley 2000). The MCSS is internationally validated and is presently the most common measure of clinical supervision effectiveness in current studies.

Benefits

Benefits are the positive consequences of supervision effectiveness. In the research literature, there is little consensus on what to measure as benefits of clinical supervision, although most benefits associated with clinical supervision, in accordance with Proctor’s (1987) model, might be categorized as ‘restorative’ and ‘formative’. The most commonly investigated restorative benefits are prevention of strain (Hallberg & Norberg 1993), and in particular, burnout (Berg et al. 1994; Edwards et al. 2006; Hallberg 1994; Hyrkäis 2005). Formative benefits include improved coping (Berg & Hallberg 1999), professional
growth, autonomy (Hallberg et al. 1994), and a sense of coherence (Berg & Hallberg 1999). In addition to these categories, studies have focused on job satisfaction (Hyrkäs 2005) and satisfaction with nursing care (Hallberg 1994; Hallberg et al. 1994). This summary is not exhaustive, but it reflects the major areas of interest in the research that aims to provide evidence of the possible benefits of clinical supervision. With the exception of the MBI, none of the measures have gained international recognition.

Individual and workplace factors

Individual and workplace factors are likely to influence all three stages of the proposed model. In previous studies on clinical supervision in psychiatric nursing, measures of individual and workplace aspects rely mainly on objective sociodemographic or organizational factors, while self-reported measures are also observed. More research is needed on organizational and work environmental issues (Jones 2006; Sloan 2006), as well as the sociodemographic and personality characteristics of the individual (Jones 2006; Teasdale et al. 2001). A recent study indicated that workplace factors, including organizational location, work shift, and work–environmental factors (cognitive demands and social support), were related to ‘participation’, while the individual characteristic, sex, approached limits of significance (Gonge & Buus 2010). Moreover, sex, education, age, and work shift have been reported to influence the reported ‘effectiveness’ of clinical supervision, as measured by the MCSS (Hyrkäs 2005). Research on stress and coping is based on models assuming that these concepts cannot be understood independently of individual and environmental factors; however, research on benefits of clinical supervision in psychiatric nursing generally has not taken such factors into consideration. Finally, studies of clinical supervision might be advanced by the application of multivariate statistics allowing the analyses to reflect that the activity takes place in a reality of individuals employed in diverse environments (Edwards et al. 2006; Jones 2006).

Objective

The objective of this study was to test the applicability of a model for investigating the benefits of clinical supervision. The test was conducted by carrying out two steps of multivariate analyses. The research questions were:

1. Are there any associations between participation in clinical supervision and individual and workplace factors in relation to the reported effectiveness?

2. Are there any associations between the effectiveness of supervision and individual benefits, taking participation, as well as individual and workplace factors, into consideration?

MATERIALS AND METHODS

Design

The study was designed as a cross-sectional questionnaire survey. Two sources of data were included: (i) database information on all nursing staff members provided by the hospital; and (ii) a self-report questionnaire survey.

Population

All 239 psychiatric nursing staff members in permanent employment at nine general psychiatric wards (GPW) \(n = 187, 78\%\) and at four community mental health centres (CMHC) \(n = 52, 22\%\) at a Danish psychiatric university hospital were invited to participate in the study. Staff members at this hospital had different professional backgrounds, but had very similar duties.

Clinical supervision

The provision of clinical supervision to all nursing staff was a formal aim of the hospital management; however, at the time of the survey, supervision was only conducted in seven of nine GPWs and two of four CMHC.

Interviews with the 10 supervisors (psychiatrists and psychologists) indicated that they were all external to the units they supervised, being employed elsewhere. Their experience as supervisors ranged from 4 to 33 years (average: 18.2 years), and all had postgraduate training in psychodynamic (8 supervisors) and/or cognitive (3 supervisors) or systemic therapy (2 supervisors). Supervisors were not given any formal instructions on how to supervise, meaning that supervisors could define their own supervisory methods and practices. All the supervisors identified the facilitation of reflective processes as the main component of their supervision, at times supplemented by teaching. All sessions were conducted in groups, and most sessions lasted 90 min. Rich descriptions on how the nursing staff experienced the clinical supervision in their specific unit can be found in two qualitative analyses conducted as part of this research project (Buus et al. 2010a,b).

Instruments

Database information

The hospital provided information on sex, age, and education, as well as organizational facts regarding work shift and unit of employment for each of the 239 participants.
**Questionnaire survey**

The first author introduced the study at staff meetings at each unit (GPW and CMHC) and encouraged staff to participate. In order to reach those participants who had not attended the staff meetings, a letter containing information about the study was enclosed when the questionnaire was sent out. A second copy of the questionnaire was sent to non-respondents 1 month later. The response rate was 60.7% (145/239 participants).

The database information on the entire study population allowed the analysis of selection bias by comparing respondents and non-respondents. Respondents were biased as significant differences in response rates occurred between locations (GPW–CMHC) ($P = 0.00$), staff with differing education ($P = 0.00$), and work shifts ($P = 0.00$) (Gonge & Buus 2010).

Nine questionnaires were excluded due to missing information, which reduced the study sample to 136 participants. The study sample included 80 registered nurses (59%), 49 auxiliary nurses (36%), and seven occupational therapists and social educators (5%). There were 115 women (85%) and 21 men (15%). A total of 116 participants predominantly worked day shifts (85%), 13 predominantly evening shifts (10%), and seven predominantly night shifts (5%). The age of the participants ranged from 22 to 65 years, with an average of 46.3 years. Ninety participants (66%) were employed in GPW, with the remaining 46 (34%) coming from CMHC.

The following measures were included in the questionnaire:

**Participation** The frequency of participation was indicated by asking: ‘How many clinical supervision sessions have you attended within the last 6 months?’ (mean = 3.44, standard deviation (SD) = 4.07, range = 0–24). The validity of this retrospective, self-reported measure, however, might be affected by recall bias, as the self-reported participation was significantly higher compared to additional, direct, prospective observations of participation in clinical supervision in the subsequent 3 months. Distinguishing between participants and those having not participated in supervision revealed a significant difference between the self-reported retrospective and the observed prospective data: $\chi^2 (1N = 136) = 6.0 \ (P = 0.01)$, where 1N represents 136 staff members providing retrospective, as well as prospective, data.

**Supervision effectiveness** The MCSS (Winstanley 2000) was applied to measure the effectiveness of the clinical supervision. The wording of the Danish version of MCSS was arrived at on the basis of comparisons of independent translations of the MCSS by the two authors and a bilingual non-researcher, as well as the subsequent exchange and comparisons of back and forth translations with MCSS authors. The MCSS includes the following subscales: ‘trust/rapport’ ($\alpha = 0.86$), ‘supervisor advice/support’ ($\alpha = 0.79$), ‘improved care/skills’ ($\alpha = 0.84$), ‘importance/value of clinical supervision’ ($\alpha = 0.61$), ‘finding time’ ($\alpha = 0.63$), ‘personal issues’ ($\alpha = 0.46$), and ‘reflection’ ($\alpha = 0.78$). An aggregate score of all the subscales is expressed by the total MCSS score (Table 1).

**Benefits** In line with previous studies, a range of measures intended to cover ‘restorative’ (general health, mental health, vitality, stress, and burnout) and ‘formative’ (coping) benefits as well as ‘job satisfaction’, was applied.

An item on ‘general health’ was selected from Short Form-36 (Bjørner et al. 1997), as well as scales on ‘vitality’ ($\alpha = 0.80$) and ‘mental health’ ($\alpha = 0.78$).

The MBI (Kristensen & Borritz 1998; Maslach & Jackson 1986) consists of three subscales: ‘emotional exhaustion’ ($\alpha = 0.59$), ‘depersonalization’ ($\alpha = 0.66$), and ‘personal accomplishment’ ($\alpha = 0.75$).

### TABLE 1: Manchester Clinical Supervision Scale (MSCS)

<table>
<thead>
<tr>
<th>Item</th>
<th>Item</th>
<th>n</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust/rapport</td>
<td>7</td>
<td>128</td>
<td>27.0</td>
<td>4.8</td>
<td>11–35</td>
</tr>
<tr>
<td>Supervisor advice/support</td>
<td>6</td>
<td>127</td>
<td>22.9</td>
<td>3.4</td>
<td>12–30</td>
</tr>
<tr>
<td>Improved care/skills</td>
<td>7</td>
<td>129</td>
<td>27.5</td>
<td>4.3</td>
<td>14–35</td>
</tr>
<tr>
<td>Importance/value of clinical supervision</td>
<td>6</td>
<td>131</td>
<td>26.1</td>
<td>3.1</td>
<td>17–30</td>
</tr>
<tr>
<td>Finding time</td>
<td>4</td>
<td>131</td>
<td>11.3</td>
<td>3.2</td>
<td>4–19</td>
</tr>
<tr>
<td>Personal issues</td>
<td>3</td>
<td>130</td>
<td>10.9</td>
<td>2.0</td>
<td>5–15</td>
</tr>
<tr>
<td>Reflection</td>
<td>3</td>
<td>131</td>
<td>12.5</td>
<td>2.0</td>
<td>6–15</td>
</tr>
<tr>
<td>MCSS total†</td>
<td>36</td>
<td>125</td>
<td>138.2</td>
<td>16.7</td>
<td>96–174</td>
</tr>
</tbody>
</table>

†Responses to the 36 items are indicated in five categories, ranging from ‘strongly disagree’ to ‘strongly agree’.

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Measures on coping styles were obtained using the Coping Styles Questionnaire (CSQ) (Elklit 1996; Roger et al. 1993), asking how participants cope with stress. Four coping styles are identified: ‘rational coping’ ($\alpha = 0.80$), ‘emotional coping’ ($\alpha = 0.78$), ‘detached coping’ ($\alpha = 0.53$), and ‘avoidance coping’ ($\alpha = 0.70$).

The Copenhagen Psychosocial Questionnaire (COPSOQ) (Kristensen et al. 2005) contributed with scales on ‘stress’ ($\alpha = 0.81$) and ‘job satisfaction’ ($\alpha = 0.83$) (Table 2).

Workplace factors The COPSOQ also provided scales on the following work–environmental factors: ‘quantitative demands’ ($\alpha = 0.83$), ‘tempo’ ($\alpha = 0.76$), ‘cognitive demands’ ($\alpha = 0.65$), ‘influence at work’ ($\alpha = 0.70$), and ‘social support’ ($\alpha = 0.71$). The COPSOQ is a recent questionnaire developed from a review of existing questionnaires on the psychosocial work environment (Kristensen et al. 2005, from which scales related the influential demand–control model were selected (Karasek & Theorell 1990).

Individual factors A single item asked: ‘How many years experience do you have in psychiatric nursing?’ The Eysenck Personality Questionnaire (EPQ) (Eysenck & Eysenck 1975) contributed with scales on ‘neuroticism’ ($\alpha = 0.83$) and ‘extroversion’ ($\alpha = 0.81$). The EPQ has been substantially validated as a self-report measure of personality, and the authors believe that neuroticism and extroversion are the most descriptive factors of personality.

In general, all scales applied to measuring the effectiveness of supervision, individual benefits, and workplace and individual factors, presented satisfactory Cronbach’s $\alpha$ coefficients, apart from a few questionable scales with coefficients below 0.70 and ‘personal issues’ (MCSS) and ‘detached coping’ (CSQ), which had poor internal consistency.

Statistics
Descriptive statistics provided means, SD, and ranges characterizing the dependent variables. Dependent variables on supervision effectiveness and benefits had residuals that did not meet the criteria for normal distribution, rendering ordered logistic regression suitable for the main analyses. Furthermore, ordered logistic regression allowed multivariate analyses of the independent variables in relation to the dependent variables. As a categorical variable with more than two categories, ‘education’ was transformed into a dummy variable before it could be entered into the multivariate analyses together with the other independent variables.

The results are reported as coefficients with 95% confidence intervals. Each coefficient describes the expected change (positive or negative) in the dependent variable caused by one level of the independent variable, apart from ‘education’, where the coefficients indicate the change between each category of the variable in relation to a category chosen as a reference.

All statistical analyses were conducted using Stata IC 10.0 (College Station, TX, USA).

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**TABLE 2:** Benefits measured by scales from Short-Form-36 (SF-36), Maslach Burnout Inventory (MBI), Coping Styles Questionnaire (CSQ), and Copenhagen Psychosocial Questionnaire (COPSOQ)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Items</th>
<th>Response categories</th>
<th>n</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SF-36</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General health</td>
<td>1</td>
<td>5</td>
<td>130</td>
<td>76.7</td>
<td>17.8</td>
<td>25–100</td>
</tr>
<tr>
<td>Vitality†</td>
<td>4</td>
<td>6</td>
<td>132</td>
<td>68.7</td>
<td>15.8</td>
<td>20–100</td>
</tr>
<tr>
<td>Mental health†</td>
<td>5</td>
<td>6</td>
<td>132</td>
<td>83.3</td>
<td>11.5</td>
<td>40–100</td>
</tr>
<tr>
<td><strong>MBI</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional exhaustion</td>
<td>9</td>
<td>7</td>
<td>132</td>
<td>14.6</td>
<td>9.1</td>
<td>0–48</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>5</td>
<td>7</td>
<td>133</td>
<td>3.8</td>
<td>4.0</td>
<td>0–20</td>
</tr>
<tr>
<td>Personal accomplishment</td>
<td>8</td>
<td>7</td>
<td>130</td>
<td>39.7</td>
<td>6.0</td>
<td>22–48</td>
</tr>
<tr>
<td><strong>CSQ</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rational coping</td>
<td>11</td>
<td>4</td>
<td>130</td>
<td>29.9</td>
<td>4.4</td>
<td>14–44</td>
</tr>
<tr>
<td>Emotional coping</td>
<td>10</td>
<td>4</td>
<td>130</td>
<td>14.4</td>
<td>3.1</td>
<td>10–27</td>
</tr>
<tr>
<td>Detached coping</td>
<td>6</td>
<td>4</td>
<td>129</td>
<td>13.0</td>
<td>2.4</td>
<td>8–23</td>
</tr>
<tr>
<td>Avoidance coping</td>
<td>10</td>
<td>4</td>
<td>130</td>
<td>18.3</td>
<td>3.3</td>
<td>11–32</td>
</tr>
<tr>
<td><strong>COPSOQ</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress†</td>
<td>4</td>
<td>5</td>
<td>133</td>
<td>23.2</td>
<td>15.3</td>
<td>0–69</td>
</tr>
<tr>
<td>Job satisfaction†</td>
<td>4</td>
<td>4</td>
<td>128</td>
<td>63.5</td>
<td>16.5</td>
<td>25–100</td>
</tr>
</tbody>
</table>

†Aggregate scores were converted into a score ranging from 0 to 100.
RESULTS

Results from the first step of the analyses are presented in Table 3, in order to test applicability of the proposed model. The results refer to the multivariate analyses of associations between participation in clinical supervision and individual and workplace factors in relation to supervision effectiveness, as measured by the subscales and total score of the MCSS.

The most important factor associated with experienced effectiveness of clinical supervision was participation in supervision. The number of ‘sessions of clinical supervision attended within the last 6 months’ was significantly associated with more positive experiences of ‘trust/rapport’ (0.22), ‘supervisor advice/support’ (0.16), ‘improved care/skills’ (0.17), ‘reflection’ (0.14), and the total MCSS score (0.18), while ‘importance/value of clinical supervision’ approached significance. ‘Finding time’ and ‘personal issues’ were not associated with attendance.

Of all the possible associations between individual and workplace factors, only a few were significant in relation to subscales of the MCSS, and none were significant in relation to the total MCSS score. The following associations were significant: ‘education (registered nurses vs occupational therapists and social educators; 1.65) and ‘tempo’ (−0.04) were associated with ‘supervisor advice/support’; ‘location’ (1.01) and ‘quantitative demands’ (−0.04) were associated with ‘finding time’; ‘years of experience’ (0.48) was associated with ‘personal issues’ and ‘sex’ (−1.03); and ‘education’ (registered nurses vs auxiliary nurses; −0.94) and ‘tempo’ (−0.04) were associated with ‘reflection’.

Neither the individual factors ‘extroversion’ and ‘neuroticism’, nor the workplace factors ‘work shift’, ‘cognitive demands’, ‘influence’, or ‘social support’ were significantly associated with any of the variables, indicating the effectiveness of clinical supervision.

---

**TABLE 3:** Multivariate ordered logistic regression analyses of associations between participation in clinical supervision and individual and workplace factors in relation to subscales and total score of the Manchester Clinical Supervision Scale (MCSS).

<table>
<thead>
<tr>
<th>Factor</th>
<th>Importance/value of clinical supervision</th>
<th>Finding time</th>
<th>Reflection</th>
<th>Improved care/skills</th>
<th>MCSS total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score of clinical supervision attended</td>
<td>0.08 (0.0-0.18)</td>
<td>1.04 (0.0-1.1)</td>
<td>0.04 (0.0-0.07)</td>
<td>0.14 (0.0-0.25)</td>
<td>0.18 (0.0-0.28)</td>
</tr>
<tr>
<td>Sessions of clinical supervision attended</td>
<td>0.03 (0.0-0.05)</td>
<td>0.03 (0.0-0.05)</td>
<td>0.03 (0.0-0.05)</td>
<td>0.03 (0.0-0.05)</td>
<td>0.03 (0.0-0.05)</td>
</tr>
<tr>
<td>Trust/rapport</td>
<td>0.06 (0.0-0.08)</td>
<td>0.06 (0.0-0.08)</td>
<td>0.06 (0.0-0.08)</td>
<td>0.06 (0.0-0.08)</td>
<td>0.06 (0.0-0.08)</td>
</tr>
<tr>
<td>Supervisor advice/support</td>
<td>0.03 (0.0-0.05)</td>
<td>0.03 (0.0-0.05)</td>
<td>0.03 (0.0-0.05)</td>
<td>0.03 (0.0-0.05)</td>
<td>0.03 (0.0-0.05)</td>
</tr>
<tr>
<td>Location</td>
<td>1.01 (0.0-1.01)</td>
<td>1.01 (0.0-1.01)</td>
<td>1.01 (0.0-1.01)</td>
<td>1.01 (0.0-1.01)</td>
<td>1.01 (0.0-1.01)</td>
</tr>
<tr>
<td>Quantitative demands</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
</tr>
<tr>
<td>Temp</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
</tr>
<tr>
<td>Cognitive demands</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
</tr>
<tr>
<td>Social support</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
<td>0.00 (0.0-0.00)</td>
</tr>
</tbody>
</table>

P < 0.05; **P < 0.01; ***P < 0.001. Mean = 33. SD = 1. range = 0-67. Data for community mental health centers, forensic units, and inpatient units. Four response categories from ‘never’/‘to very small extent’ to ‘always’/‘to very large extent’ as indicated on a 5-point response scale. Aggregate scores were converted into a score ranging from 0 to 100. Significant findings are indicated by bold text.
The second step in the analyses was to investigate whether supervision effectiveness was associated with individual benefits (see Table 4).

The univariate analyses indicated the experienced effectiveness of clinical supervision (the aggregate score of the MCSS) was significantly associated with five of 12 of the individual benefits. Supervision effectiveness was associated with increased levels of ‘vitality’ (0.02), ‘personal accomplishment’ (0.03), and ‘rational coping’, as well as reduced ‘depersonalization’ (−0.02) and ‘stress’ (−0.02).

Subsequently, the supervision effectiveness was analysed in relation to the same benefits through multivariate analyses, including participation and individual and workplace factors. Inclusion of possible confounding factors resulted in ‘personal accomplishment’ losing significance, while ‘emotional exhaustion’ and ‘job satisfaction’ gained significance. In the multivariate analyses, supervision effectiveness was significantly associated with experiencing less ‘stress’ (−0.03), greater ‘job satisfaction’ (0.03), more ‘vitality’ (0.04), less ‘emotional exhaustion’ (−0.03), reduced ‘depersonalization’ (−0.03), and the frequent use of ‘rational coping’ (0.02). Experienced effectiveness of clinical supervision did not appear to be related to ‘general health’ and ‘mental health’, ‘personal accomplishment’ or ‘emotional coping, detached coping’, and ‘avoidance coping’.

For the sake of clarity, the significant associations with benefits are included in Table 4, but the confounding factors are not.

**TABLE 4: Univariate and multivariate ordered logistic regression analyses of effectiveness of clinical supervision (MCSS) in relation to benefits (SF-36, MBI, CSQ, and COPSOQ)**

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Univariate analysis</th>
<th>Multivariate analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF-36: General health</td>
<td>0.01 (−0.01−0.03)</td>
<td>0.01 (−0.02−0.04)</td>
</tr>
<tr>
<td>SF-36: Vitality</td>
<td>0.02* (0.01−0.04)</td>
<td>0.04** (0.01−0.06)</td>
</tr>
<tr>
<td>SF-36: Mental health</td>
<td>0.00 (−0.02−0.02)</td>
<td>0.01 (−0.01−0.04)</td>
</tr>
<tr>
<td>MBI: Emotional exhaustion</td>
<td>−0.02 (−0.03−0.00)</td>
<td>−0.03** (−0.05−0.01)</td>
</tr>
<tr>
<td>MBI: Depersonalization</td>
<td>−0.02* (−0.04−0.00)</td>
<td>−0.03* (−0.05−0.01)</td>
</tr>
<tr>
<td>MBI: Personal accomplishment</td>
<td>0.02* (0.00−0.04)</td>
<td>0.01 (−0.01−0.03)</td>
</tr>
<tr>
<td>CSQ: Rational coping</td>
<td>0.03** (0.01−0.05)</td>
<td>0.02* (0.00−0.05)</td>
</tr>
<tr>
<td>CSQ: Emotional coping</td>
<td>−0.01 (−0.02−0.01)</td>
<td>−0.01 (−0.03−0.01)</td>
</tr>
<tr>
<td>CSQ: Detached coping</td>
<td>0.01 (−0.01−0.03)</td>
<td>0.01 (−0.01−0.04)</td>
</tr>
<tr>
<td>CSQ: Avoidant coping</td>
<td>0.01 (−0.01−0.03)</td>
<td>0.01 (−0.02−0.03)</td>
</tr>
<tr>
<td>COPSOQ: Stress</td>
<td>−0.02* (−0.04−0.00)</td>
<td>−0.03** (−0.05−0.01)</td>
</tr>
<tr>
<td>COPSOQ: Job satisfaction</td>
<td>0.02 (0.00−0.03)</td>
<td>0.03* (0.01−0.05)</td>
</tr>
</tbody>
</table>

*P < 0.05, **P < 0.01. Multivariate analyses controlled for the confounding effect of participation in the previous 6 months, location, sex, education, work shift, and years of experience. Following significant associations were found between confounding factors and benefits: sex–emotional exhaustion (MBI), 1.06* (0.73–2.52), education (registered nurses–occupational therapists and social educators)–job satisfaction (COPSOQ), 1.63* (0.73–2.52), work shift–detached coping (CSQ), 1.06* (0.23–1.90), location–job satisfaction (COPSOQ), 1.63** (0.73–2.52), education (registered nurses–occupational therapists and social educators)–job satisfaction (COPSOQ), −1.55* (−3.07–0.03). All other associations were insignificant.

**DISCUSSION**

The results of this study give some support to the model we have described as a pathway from participation to effectiveness to benefits. As mentioned earlier, ‘participation’ was associated with ‘effectiveness’, and ‘effectiveness’ was related to various ‘benefits’.

This study supports the hypothesis that there is an association between participation in clinical supervision and the experience of a positive effectiveness. The reported number of sessions attended during the last 6 months was associated with four out of seven subscales from the MCSS, as well as the total score. This finding is in accordance with previous studies, which clearly support that a higher frequency of sessions attended is associated with a more positive effectiveness measured by the MCSS (Edwards et al. 2006; Hyrkää 2005; Winstanley 2000). Finding that participation is related to experienced effectiveness might in itself seem rather
obvious, but it does challenge the validity of previous studies on clinical supervision that do not pay attention to participation.

We found positive effectiveness of clinical supervision (MCSS) to be significantly associated to reports of less ‘stress’, greater ‘job satisfaction’, more ‘vitality’, less ‘emotional exhaustion’, reduced ‘depersonalization’, and the frequent use of ‘rational coping’. Our results are in line with a study by Edwards et al. (2006), who suggested that high scores on the MCSS indicate a high degree of effectiveness of the supervision process, and in turn, high scores on the MCSS are associated with lower levels of burnout. In our study, the significance of the associations between MCSS and the benefits was further substantiated by the fact that the multivariate analyses were used to control for potentially confounding variables.

In summary, this study provided some evidence supporting the suggested model; however, the results must be interpreted with caution. Positive effectiveness might be a consequence of frequent participation, but oppositely positive effectiveness might also motivate frequent participation. Furthermore, the assumption that positive benefits casually follow an experienced positive effectiveness of clinical supervision might be false. An alternative assumption, that well-functioning staff participate and profit more from clinical supervision, might also be true. Consequently, this study does not allow any conclusions regarding the direction of any possible causality. A critical interpretation of the results allows the conclusion that the results do not contradict the model and might, to some extent, support the assumed pathway. The hypothesized causal relations, however, cannot be tested through the cross-sectional design of this study, but preferably, should be investigated through a longitudinal design.

The study indicated that participation was related to experienced effectiveness, while participation was not significantly associated with benefits to the same extent as effectiveness. Consequently, it seems reasonable to pursue the idea that experienced effectiveness is a mediator between participation and benefits from clinical supervision.

The inclusion of individual and workplace factors in the analyses of clinical supervision effectiveness resulted in some significant associations, but the number of findings was not substantial, considering that a fraction of the findings was probably attributable to chance. Some of the findings, however, deserve attention as they motivate further investigation.

‘Location’ was significantly associated with ‘finding time’, indicating that staff in CMHC have less difficulty in finding time for clinical supervision than colleagues in GPW. Likewise, high ‘quantitative demands’ were negatively associated with staff’s experience of finding time for participation in clinical supervision. ‘Finding time’ was of one of a few MCSS subscales that was not associated with ‘participation’, and it seems relevant to question whether this subscale reflects workplace conditions rather than the effectiveness of clinical supervision. Furthermore, Cronbach’s α for ‘finding time’, like the ‘importance/value of clinical supervision’ and ‘personal issues’, were rather low, adding reason to reconsider the empirical relevance of this scale and possibly other scales too.

The results also give reason to ask why women experience all aspects of clinical supervision effectiveness more positively than men, with the measure of ‘reflection’ reaching a level of significance. Likewise, is it a coincidence that staff with more ‘years of experience’ find, to a significantly higher degree, that clinical supervision allows them to express ‘personal issues’, and in general, give more positive responses to all measures of clinical supervision effectiveness (except ‘finding time’). Attention should also be given to the workplace factor ‘tempo’, as having to work fast generally appears to be negatively associated with the experienced effectiveness of clinical supervision. These reflections are not conclusive, but could inspire future research.

The inclusion of individual and workplace factors in the multivariate analyses of benefits served to control for confounding factors, which is a general limitation in previous research (Edwards et al. 2006). A comparison of univariate and multivariate analyses (Table 4) revealed that the confounding factors affected the results. These more advanced analyses revealed ‘sex’ and ‘work shift’ as being significantly related to ‘emotional exhaustion’, which contributed to the emergence of a significant relation between ‘effectiveness’ (MCSS) and ‘emotional exhaustion’. On the contrary, taking the significant relationship between ‘participation’ and ‘personal accomplishment’ into consideration, ‘effectiveness’ (MCSS) appears to be of no significant importance. These results emphasize the relevance of multivariate analyses allowing the investigation of comprehensive, multifactorial models.

This study might have added to the diversity of instruments applied to searching for the effectiveness and benefits of clinical supervision. The selection of instruments for this study, however, was not random. We selected only validated instruments available in Danish, as well as English, allowing the international exchange of results, which locally-developed instruments complicate. The instruments all measured possible benefits identified as common in the research on this topic, namely benefits.
categorized as restorative, formative, or job satisfaction. Finally, we included the two specific measures (MCSS and MBI), which have achieved general recognition in this field. We selected instruments providing empirical data, illustrating the proposed model; however, we realize that other instruments could possibly have been applied, and we believe there is a need to clarify which instruments are relevant in order to establish some consensus guiding future studies.

There are serious limitations affecting the validity of the results of the study. As mentioned earlier, the main limitation is the cross-sectional design. Another limitation is that data were collected by self-report and the validity might be influenced by recall bias; for example, we found that the self-reported measure of participation in the past 6 months had a low correlation with the direct observation of supervision participation the following 3 months. This study focused on the frequency of participation in clinical supervision, with only a very general description of the actual supervision. Measuring participation in clinical supervision was better than no registration, but a more thorough quantitative investigation of clinical supervision (e.g., length of sessions/duration) (Hyrkäs 2005) or qualitative description of the supervision practice might contribute to a better understanding of what makes clinical supervision efficient. Finally, a response rate of 60.7% is not very high, and a sample bias is likely to affect the data, as previous analyses (Gonge & Buus 2010) indicated the sample was biased, especially because the sample included staff members who were most likely to participate in clinical supervision.

CONCLUSION

This study set out to investigate the benefits of clinical supervision in psychiatric nursing from a model describing a pathway from participation to effectiveness to benefits of clinical supervision. The study confirmed the possible existence of such a pathway, as participation was significantly associated with effectiveness, and effectiveness was significantly associated with benefits in terms of increased job satisfaction, vitality, rational coping and less stress, emotional exhaustion, and depersonalization. The model included individual and workplace factors, but multivariate analyses only identified isolated relations between these factors and supervision effectiveness and benefits. Findings from this study, however, must be interpreted with some caution due to methodological limitations, such as a cross-sectional design, self-reported data, and sample bias. The results from this study suggest a model for advancing future research in this field by investigating a possible mediating effect of experienced effectiveness of clinical supervision participation in relation to benefits through longitudinal study designs. The implication of this study in clinical practice is that any mediation of benefits might be enhanced though efforts to ensure frequent participation.

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REFERENCES


